# Empire Documentation

## Routines

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| --- | --- |
| Routine | Purpose |
| ArmCnt | For computer-controlled armies, counts the number of units assigned to attack a city target. |
| ArmJmp | For computer-controlled armies aboard troop transports, determines whether to stay on board or disembark. |
| Compar | Checks that a specified location’s terrain is in a list of permitted types |
| ICorr | Ensures that a direction value is between 1 and 8 |
| IDist | Returns the distance between two locations. |
| Mov | Picks the next direction to be used on a path between two points |
| Order | Checks if a location is off the map. Returns 0 if on the map, and 1 if off. |
| Path | Finds direction to move to get to a target location |

## Arrays

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| --- | --- | --- |
| Name | Renamed | Purpose |
| AR2S | UnitTimer | One element for each computer army representing a timer of inactivity. |
| ARMTOT |  | The number of computer armies assigned to attack a specific target city. Only 20 target cities are tracked. Each element in this array corresponds to a location in the TARGET array |
| CODEFU | UnitAction | One element for every computer army. Assigns an action to that army.   |  |  | | --- | --- | | 0 | Move in a certain direction, or follow the shore | | 1 | Move towards a target city | | 2 | Move towards an enemy army | | 3 | Move towards a troop transport | |
| CODELA | UnitActionTarget | One element for every computer army. Contains the target location or movement direction associated with the action assigned in CODEFU. |
| IARROW | MoveOffset | Contains nine elements, one for each possible direction of movement, including remain at present location. Each value is an offset that will give an adjacent location to the current in the desired direction. |
| J1TS | UnitHits | Number of hits remaining for each unit |
| LIMIT | UpperIndex | Contains the highest index value used for each unit type. The integer unit type is the index into this array. Values are: -   |  |  | | --- | --- | | 9 | Computer army | | 13 | Computer troop transport | |
| LOCI | Sightings | Sightings of player armies.  First index is a grouping of sightings (referred to in the comments as being on the same continent). The (N,1) element is the date of the last sighting on that “continent”, and the (N,2) element might be a count of armies spotted.  Element (10,11) has some special significance that is yet to be determined |
| NUMBER | EnemyCount | Contains various counts used by the computer player.   |  |  | | --- | --- | | 1-8 | Number of units | | 11-18 | Number of cities producing each item | | 9 | Number of controlled cities | | 10 | Number of target cities | |
| OKB | EnemyArmyTerrain | Array of terrain types that a computer army can move on to |
| OWNER | CityOwner | Owner of each city |
| PHASE | CityProduction | Unit production for each city |
| RMAP | ReferenceMap | The master map used by the game |
| TARGET | TargetCity | Locations of cities targeted by the computer. Only 20 targets are tracked. Each element in this array corresponds to the number of attacking units in the ARMTOT array. |
| RLMAP | UnitLocation | One element for every possible unit, for both player and computer, including those that don’t yet exist. Contains the location of that unit. Indexing into this array uses various offset constants for each unit type. Allows for a total of 3000 units.   |  |  |  | | --- | --- | --- | | Constant | Range | Description | | IAR | 0-499 | Player armies | | IFI | 500-699 | Player fighters | | IDE | 700-899 | Player destroyers | | ISU | 900-1099 | Player submarines | | ITT | 1100-1199 | Player troop transports | | ICR | 1200-1299 | Player cruisers | | ICA | 1300-1399 | Player aircraft carriers | | IBA | 1400-1499 | Player battleships | | IAR2 | 1500-1999 | Computer armies | | IFI2 | 2000-2199 | Computer fighters | | IDE2 | 2200-2399 | Computer destroyers | | ISU2 | 2400-2599 | Computer submarines | | ITT2 | 2600-2699 | Computer troop transports | | ICR2 | 2700-2799 | Computer cruisers | | ICA2 | 2800-2899 | Computer aircraft carriers | | IBA2 | 2900-3000 | Computer battleships | |
| X | CityLocation | Location of each city |

## Constants

|  |  |  |
| --- | --- | --- |
| Name | Renamed | Purpose |
| IAR | PArmyStart | Start index in RLMAP array for player armies |
| IFI |  | Start index in RLMAP array for player fighters |
| IDE |  | Start index in RLMAP array for player destroyers |
| ISU |  | Start index in RLMAP array for player submarines |
| ITT |  | Start index in RLMAP array for player troop transports |
| ICR |  | Start index in RLMAP array for player cruisers |
| ICA |  | Start index in RLMAP array for player aircraft carriers |
| IBA |  | Start index in RLMAP array for player battleships |
| IAR2 | CArmyStart | Start index in RLMAP array for computer armies |
| IFI2 |  | Start index in RLMAP array for computer fighters |
| IDE2 |  | Start index in RLMAP array for computer destroyers |
| ISU2 |  | Start index in RLMAP array for computer submarines |
| ITT2 | CTransportStart | Start index in RLMAP array for computer troop transports |
| ICR2 |  | Start index in RLMAP array for computer cruisers |
| ICA2 |  | Start index in RLMAP array for computer aircraft carriers |
| IBA2 |  | Start index in RLMAP array for computer battleships |
| ITT2H | CHitsTransportStart | Start index in J1TS array for computer troop transports |